



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/881,649	06/14/2001	Gregory K. Lewis	MBHB 01-469	6946

7590 01/11/2005

Monika Dudek  
McDonnell Boehnen Hulbert & Berghoff  
32nd Floor  
300 S. Wacker Drive  
Chicago, IL 60606

EXAMINER
----------

NGUYEN, SON XUAN

ART UNIT	PAPER NUMBER
----------	--------------

2664

DATE MAILED: 01/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/881,649

Applicant(s)

LEWIS ET AL.

Examiner

SON X. NGUYEN

Art Unit

2664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 6/14/2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-3, 11, 16-20, 23 and 24 is/are rejected.
- 7) ☐ Claim(s) 4-10, 12-15, 21, 22, 25 and 26 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 7/29/2002.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Specification***

1. The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code such as [www.ietf.org](http://www.ietf.org) through out specification. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.

### ***Drawings***

2. The drawings in Fig. 2 are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "226" has been used to designate both MEMORY UNIT 226 and CLI/SNMP INTERFACE 226. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 1-3,11,16,17-20,27 are rejected under 35 U.S.C. 102(e) as being anticipated by Madour at el. (U.S 6,834,050) hereinafter referred to as Madour.

Regarding claim 1, Madour discloses a method for providing Internet Protocol communication services in communication network, the method comprising:  
detecting a communication session (**Radio Networks detect communication session because Mobil Nodes get access to the packet core network through Radio Networks; See lines 34-36 of column 1**) associated with a client device (**Mobile Nodes of Fig. 1 corresponds to client device**) on a first network device (**Radio Networks of Fig. 1 corresponds to first network device**); sending a first message

from the first network device to a second network device (**Packet Core Functions PCF 22 of Fig. 1 or Packet Core Functions PCF 42 of Fig. 2 corresponds to second network device**), the first message comprising a registration request (**Radio networks transfers registration message from Mobil Node to Packet Core Function; See lines 57-58 of column 5 and step 41 of Fig. 2**); determining on the second network device a network address of a third network device (**Packet Data Service Node PDSN of Fig. 2 corresponds to third network element**) for providing communication services for the communication session associated with the client device (**PDSN\_1 of Fig. 2 is determined by Radio networks; See lines 59-60 of column 5**) ; sending a first response message from the second network device to the first network device, the first response message comprising a registration reply message including the network address of the third network device (**PCF sends response message to Radio Network including PDSN IP address; See lines 36-37 of column 7 or step 66 of Fig. 3**); and establishing a communication session between the client device and the third network device specified in the first response reply message, the third network device arranged to provide communication services to the client network device (**PPP connection is established; See lines 43-46 of column 7 or step 69-70 of Fig. 3**).

Regarding claim 2, Madour discloses a client device comprises a mobile Internet Protocol client device (**Mobile Node of Fig. 1**), the first network device comprises a radio node entity (**Radio Network of Fig. 1**), the second network device comprises a control node entity (**Packet Core Function of Fig. 1 and 2**), and the third network device comprises a foreign agent (**PDSN of Fig. 1 and 2**).

Regarding claim 3, Madour discloses wherein the Internet Protocol communication services comprise mobile Internet Protocol communication services or simple Internet Protocol communication services **(See 58-60 of column 1)**.

Regarding claim 11, Madour discloses a method for providing Internet Protocol communication services in a communication network, the method comprising: receiving a registration request message **(BSC 51 sends registration message to PCF; See step 63 of Fig. 3)** from a radio node **(Radio Network of Fig. 1 corresponds to radio node including BSC 51 and MSC 52 of Fig. 3)** on a control node **(Packet Core Function PCF 53 of Fig. 3 corresponds to control node)**, the registration request message comprising a request to register a mobile client **(Mobil Node of Fig. 1 corresponds to mobile client sends request message to PCF through Radio Network )** detected on the radio node with a foreign agent **(PDSN of Fig. 1 corresponds to foreign agent; and step 55 of Fig. 3)**; determining whether the mobile client is associated with at least one active communication session **(See line 17 of column 7)**; if so, determining a last serving foreign agent associated with the mobile client **(Step 61 of Fig. 3)**; determining whether the last serving foreign agent is available and associated with the radio node **(Step 62 of Fig. 3)**; and, if so, sending a registration reply message from the control node to the radio node, the registration reply message comprising a network address of the last serving foreign agent **(Step 66 of Fig. 3)**.

Regarding claim 16, Madour discloses wherein the mobile client comprises a mobile Internet Protocol client **(Mobile Subscribers of Fig. 1)**, and the radio node

comprises a Base Station Control node (**BSC of Fig. 3**), a Packet Control node (**MSC of Fig. 3**), or a Radio Network node (**Radio Network of Fig. 1**).

Regarding claim 17, Madour discloses an Internet Protocol working device for providing Internet Protocol communication services to mobile client devices, the device comprising: a central processing unit (**Packet Core Function PCF\_1 of Fig. 2**); a first interface for communicating with at least one radio node (**Radio Network RN of Fig. 1 correspond to radio node**), the first interface for receiving a registration request message from a radio node (**The interface receiving original signal 41 from MN; See Fig. 2**) upon detecting a communication session associated with a mobile client (**Mobile Node of Fig. 1 corresponds to mobile client**) on a radio node; a second interface (**The interface establishes connection between PCF and PDSN; See step 65 of Fig. 3**) for communicating with a plurality of network device comprising a plurality of foreign agents (**PDSNs of Fig. 2 corresponds to foreign agents**), the second interface (**The R-P interface in step 21 of Fig. 1**) for receiving load status information data and mobile client information data from the plurality of network devices comprising the plurality of foreign agents; at least one memory unit for storing the mobile client information data and the load status information data (**The lookup table 34 of Fig. 2 and see lines 40-43 of column 3**); a machine readable storage medium (**The cache memory 48 of Fig. 2 and see lines 47-54 of column 3**) comprising a first set of instructions for processing the registration request message from the radio node responsive to receiving the registration request message from the radio node and for generating a registration reply message comprising a network address of at least one of the plurality of network

Art Unit: 2664

devices comprising the plurality of foreign agents (**See step 55-58 of Fig. 3**); wherein the network address specified in the registration reply message is determined using a second set of instructions for selecting network devices comprising foreign agents upon receiving registration request messages from the at least one radio node, the second set of instructions arranged to use the client device information data and the load status information data stored in the at least one memory unit (**See step 59-70 of Fig. 3**).

Regarding claim 18, Madour discloses the Internet Protocol communication services comprise mobile Internet Protocol communication services or simple Internet Protocol communication services (**See 58-60 of column 1**).

Regarding claim 19, Madour discloses at least one radio node communicating with the Internet Protocol working device via the first interface comprises a Base Station Controller node, a Packet Control Function node (**Radio Node includes BSC 51 and MSC 52 of Fig. 3**) or a Radio Network Node (**RN of Fig. 1**).

Regarding claim 20, Madour discloses the mobile session information data comprising the network address of the network device arranged to provide Internet Protocol communication service to the client device (**The cache memory 48 of Fig. 2 stores the IP address for particular PDSN; See lines 47-49 of column 3**).

Regarding claim 27, Madour discloses the first interface and the second interface include a software interface or a hardware interface (**The first and the second interfaces inherently contain a software or hardware interface to receive and process messages from Radio node and PDSN**).



***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Madour et al (U.S. 6,834,050) in view of Leung (U.S. 6,759,857).

Regarding claims 23 and 24, Madour discloses the mobile session information data stored in the at least one memory unit.

Madour, however, fails to disclose memory unit that stores authentication data associated with client devices, and instructions for processing a registration request message and generating a registration reply message comprising authentication data of the client device if the mobile session information data comprise the authentication data of the client device.

Leung discloses a system, which employs an authentication process that enables registration of a home agent through a foreign agent for an IP mobile node. The authentication process is carried out by a class of servers known as "AAA" servers (**memory unit**), which stores authentication key (**authentication data**) for each mobile node (**See Fig. 2, block 212, and lines 52-54**). Each server also includes a security association table for storing the keys (**See lines 18-19 of column 8**) and algorithm

Art Unit: 2664

algorithm (**instructions**) for processing registration request (**See lines 52-57 of column 8**) and providing a registration reply message (**See lines 58-65 of column 8**).

It would have been obvious to one ordinary skill in the art at the time the invention was made to modify Madour's method to incorporate a setup where Packet Core Functions PCF includes AAA Server, the motivation being that using AAA Sever would be capable of allowing only authorized users to have access to subscriber provider database and preventing unauthorized users to gain access to subscriber provider database.

### ***Allowable Subject Matter***

7. Claims 4-10, 12-15, 21-22, 25-26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a) Kent K. Leung (U.S 6,636,498), Mobile IP mobile router.

b) Alan O'Neil (U.S 6,785,256), Method for extending mobile IP and AAA to enable integrated support for local access and roaming access connectivity

Art Unit: 2664

c) Ton; Bobby That Dao (US 6,771,623), Method for ensuring reliable mobile IP service.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SON X. NGUYEN whose telephone number is 571-272-6048. The examiner can normally be reached on 8 AM -5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, consisting of stylized, overlapping loops and a long horizontal line extending to the right.